



reagents & chemicals

horizontal nucleic acid electrophoresis	85
vertical protein electrophoresis	87
membranes, buffers, stains and filter pads	88
fastPADS and IPG strips	89
radiation safety	91

Reagents and Chemicals

Cleaver Scientific now offers a choice selection of chemicals and reagents for electrophoresis and molecular biology techniques. Each Cleaver Scientific reagent is manufactured to a high a standard free of impurities and tested using the most stringent analytical methods.

Horizontal Nucleic Acid Electrophoresis

CleaverGEL – High Grade Agarose for Nucleic Acid Electrophoresis Clever for DNA and Clever for the Environment

CleaverGEL is a new environmentally friendly agarose suitable for routine analysis of nucleic acids using standard electrophoretic procedures. CleaverGEL is manufactured by a process which excludes organic solvents harmful to marine life, making it far kinder to the environment than conventional agarose.

A low EEO (electroosmotic) flow minimises diffusion so that even the smallest of nucleic acid fragments remains sharp and tightly resolved, while a high gel strength aids handling and maintains compatibility with blotting techniques.

CleaverGEL is now available in a low melting point form for nucleic acid recovery and enzymatic applications, as well as in a high resolution PCR-grade form to resolve very small nucleic acid fragments 20-800bp in size.



Three types of agarose available:

Low EEO general purpose agarose resolves 0.1-10Kb in size

Low Melting Point – for nucleic acid recovery – typically resolves fragments 20bp-1Kb

High Resolution – PCR grade – high resolution, low background for analysis of fragments, 20-800bp

Technical Specification			
	Low EEO	Low Melting Point	High Resolution
CAS	9012-36-6	39346-81-1	39346-81-1
EEO	<0.13	≤0.1	≤0.1
Gelling Point*	36°C ± 1.5°C	26-30°C	≤33°C
Melting Point*	88°C ± 1.5°C	≤65°C	≤70°C
Solubility	Clear, colourless @ 1% [w/v] solution	Clear, colourless @ 2% [w/v] solution	
Moisture	≤10%	≤10%	≤10%
Gel Strength	>1200 g/cm ² (1% [w/v] Gel)	>200 g/cm ² (1% [w/v] Gel)	≥750 g/cm ² (1.5% [w/v] Gel)
Nuclease & Protease Free	Yes	Yes	Yes

*For a 1.5% [w/v] gel

Ordering Information			
CSL-AG5	Agarose 5g, Low EEO	CSL-AG20KG	Agarose 20Kg, Low EEO (40x500g)
CSL-AG100	Agarose 100g, Low EEO	Low Melting Point	
CSL-AG500	Agarose 500g, Low EEO	CSL-LMA100	Agarose 100g, LMP
CSL-AG1000	Agarose 1000g, Low EEO (2x500g bottles)	CSL-LMA500	Agarose 500g, LMP
CSL-AG2000	Agarose 2000g, Low EEO (4x500g)	High Resolution PCR-grade	
CSL-AG5000	Agarose 5000g, Low EEO (10x500g)	CSL-HRA100	Agarose 100g, HR
CSL-AG10KG	Agarose 10Kg, Low EEO (20x500g)	CSL-HRA500	Agarose 500g, HR

Powdered and Liquid Buffers

Cleaver Scientific supplies TBE and TAE in powder and liquid form. Both TBE and TAE are widely used to separate nucleic acids by horizontal gel electrophoresis, and occasionally in vertical polyacrylamide gels. TBE has a higher buffering capacity than TAE, which is used for faster separations of linear double-stranded DNA.

Cleaver Scientific TBE is supplied in packs of 10 powder sachets to maintain shelf life. Each buffer sachet may be opened as required and reconstituted in distilled water to make 1 litre of working solution.

Buffers are also provided as ready-made 50x TAE and 10x TBE solutions in 1 and 4 litre volumes. These are ideal for laboratories running horizontal nucleic acid gels on a daily basis that require off-the-shelf working stock solutions.



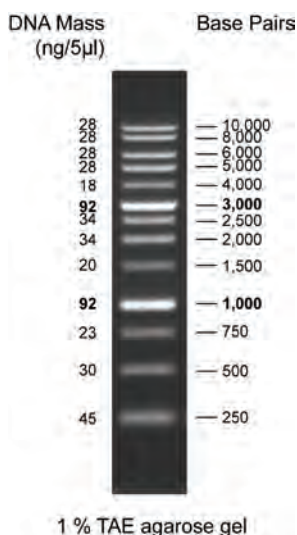
Ordering Information	
CSL-TBEP	Powdered Tris-Borate-EDTA Running Buffer – 10 sachets (10 litres / pack)
TBE10X1L	Cleaver Buffer Tris-Borate-EDTA Running Buffer, 10x 1L
TBE10X4L	Cleaver Buffer Tris-Borate-EDTA Running Buffer, 10x 4L
TAE50X1L	Cleaver Buffer Tris-Acetate-EDTA Running Buffer, 10x 1L
TAE50X4L	Cleaver Buffer Tris-Acetate-EDTA Running Buffer, 10x 4L

Technical Specification	
TAE	Each 50x solution contains: Tris-base (2.0M final stock concentration); glacial acetic acid (1.0M); EDTA, pH 8.0 (0.05M); followed by distilled water to 1L
TBE	Each 10x solution / powder contains: Tris-base (0.112M final stock concentration); boric acid (0.112M); EDTA, pH 8.0 (0.02M); followed by distilled water to 1L



Ready-To-Use DNA Markers

Pre-made and containing loading dye for immediate use, Cleaver Scientific's ready-to-use (RTU) DNA markers are specially formulated to run accurately and produce sharp, well defined ladders. Available in six molecular weight ranges and composed of discrete marker fragments isolated from restriction-digested proprietary plasmids, each DNA marker will remain stable for up to 6 months at room temperature and 12 months if kept in the fridge at 4°C. All Cleaver Scientific RTU markers contain high intensity reference bands and may be used to perform size comparisons with DNA molecules ranging from the smallest of PCR fragments to large, linearised cosmid vectors.



Technical Specification						
Product Code	CSL-MDNA-100BPH	CSL-MDNA-100BP	CSL-MDNA-1KB	CSL-MDNA-50BP	CSL-MDNA-BR	CSL-MDNA-HR
Size Range	100-3000bp	100-1500bp	250bp-10Kb	50-1500bp	100bp-10Kb	250bp-25Kb
Number of Bands	12	11	13	17	19	14
Reference Bands	500, 1500bp	500, 1500bp	1Kb, 3Kb	200, 500bp	500bp, 1.5 & 3Kb	1Kb, 3Kb
Package Concentration	54µg/500µl vial	50µg/500µl vial	50µg/500µl vial	56µg/500µl vial	86µg/500µl vial	52µg/500µl vial
Storage	6 months at 25°C, 12 months at 4°C & 24 months at -20°C					
Recommended loading Volume	5µl/well	5µl/well	5µl/well	5µl/well	5µl/well	5µl/well
Tracking Dyes	Orange G, Xylene Cyanol FF, Bromophenol Blue					
Source	Proprietary plasmids and PCR fragments phenol-extracted following restriction digestion and dissolved in 10mM Tris-HCl (pH 8.0) and 10mM EDTA.					

Ordering Information	
CSL-MDNA-100BPH	100bp DNA ladder, 100-3000bp, 1x500µl vial
CSL-MDNA-100BP	100bp DNA ladder, 100-1500bp, 1x500µl vial
CSL-MDNA-1KB	1Kb DNA ladder, 250bp-10Kb, 1x500µl vial
CSL-MDNA-50BP	50bp DNA ladder, 50-1500bp, 1x500µl vial
CSL-MDNA-BR	Broad Range DNA ladder, 100bp-10Kb, 1x 500µl vial
CSL-MDNA-HR	High Range DNA ladder, 250bp-25Kb, 1x500µl vial

Ordering Information

CSL-LOADDYE	10x Bromophenol Blue Loading Dye, 1ml
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DNA Loading Dye

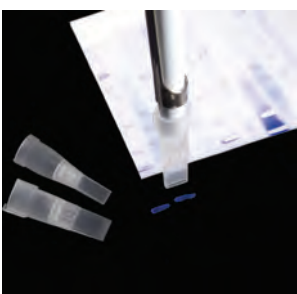
DNA loading dye contains 10x bromophenol blue, the standard tracking dye for electrophoresis. The charge-to-mass ratio of bromophenol blue allows it to co-migrate with smaller molecules within agarose and PAGE gels (e.g. at 300bp in a standard 1% agarose, TBE gel) which, with its conspicuous dark blue colour, makes it the perfect tracking dye to monitor the progress of electrophoresis runs. DNA loading dye is supplied in 1ml volumes for easy handling.

Ordering Information

RFW250	RNase-Free Water, 1x250ml
RFW50X5	RNase-Free Water, 50x5ml

RNase-Free Water

DEPC-treated to eliminate enzyme activity and then autoclaved, this sterile highly purified water product is perfect for use in PCR and Northern blotting techniques. RNase-Free water is available either as a single 250ml bottle or in fifty 5ml aliquots to prevent cross-contamination.



GelX Disposable Gel Excision Tips

Widely acclaimed as an excellent tool for gene cloning, Cleaver Scientific GelX disposable gel excision tips offer a unique and convenient way to excise nucleic acid and protein bands from gels. GelX tips allow completely safe and contamination free removal of the gel band of interest without the need to handle potentially dangerous scalpels. The gel band is neatly extracted and contained in the tip, when it is then dispensed into a tube for further analysis. Once used, the tip is ejected for disposal.

- Eliminates scalpel damage to transilluminator or gel tray
- Designed for removing bands from agarose and protein gels
- One-handed operation
- Push button gel and tip release mechanism
- Fits standard 1000µl pipettes
- Autoclavable, and DNase and RNase free
- Sterile versions also available

Ordering Information			
CSL-GELX4	4mm x 1mm, Gel Cutting Tips, 250/ bag	CSL-GELX6.5	6.5mm x 1mm, Gel Cutting Tips, 250/ bag
CSL-GELX4RACK	4mm x 1mm, Gel Cutting Tips, 5 racks of 48	CSL-GELX6.5RACK	6.5mm x 1mm, Gel Cutting Tips, 5 racks of 48

Vertical Protein Electrophoresis

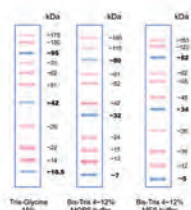
PINK Plus and BLUE Wide Range Protein Markers

Adding colour to your PAGE

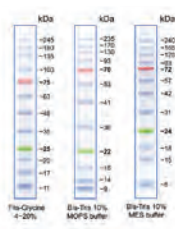
- Standard (10-175kDa) and wide (10-245kDa) molecular weight ranges available
- Coloured reference bands for easy identification in gels and blots
- Stable for 2 years at -20°C

Stable for up to 2 years if stored at -20°C and supplied pre-stained in gel loading buffer for direct loading, Cleaver Scientific PINK Plus and BLUE Wide Range recombinant protein markers are perfect for SDS-PAGE applications. Sizes range from 10-175kDa for PINK Plus and 10-245kDa for BLUE Wide Range, making both markers suitable for accurate molecular weight determination of most cellular proteins.

Each marker is covalently bound to a pink or blue colour chromophore to produce a ladder of evenly interspersed bands of uniform intensity. Coloured reference bands serve as visual indicators of electrophoresis run progression and the efficiency of western transfer onto membranes following SDS-PAGE. Both PINK Plus and BLUE Wide Range markers can be detected at volumes as low as 2.5µl per well.



CSL-PPL Pink Plus



CSL-BBL Blue Wide Range



- Convenient, pre-made stock solution or powder – just dilute or dissolve as necessary with water
- Save time & trouble – no weighing, pH adjustment or need to stock individual compounds
- Long shelf-life
- Consistency assured – rigorous QC for reproducible separations

Technical Specification		
Product Code	CSL-PPL	CSL-BBL
Size Range	10-175kDa	10-245kDa
Number of Bands	11	12
Reference Bands	10, 40 and 90kDa blue	25 & 75kDa; green & red
Contents	Max. 2.2mg total protein in 15% (v/v) glycerol, 2% SDS, 20mM Tris pH 7.5, 1mM 2-ME and 3.6M Urea	Max. 2.4mg total protein in 15% (v/v) glycerol, 2% SDS, 20mM Tris pH 7.5, 1mM 2-ME and 3.6M Urea
Volume Supplied	500µl	500µl
Storage	3 months at 4°C & 24 months at -20°C	
Loading Volume	2.5-5µl/well	
Number of Applications	100-200	
Source	Recombinant proteins, various sources	

Ordering Information	
CSL-PPL	CSL Pink Plus Prestained Protein Ladder, 10-175kDa, with 10, 40 & 90kDa reference bands, 1x 500µL vial.
CSL-BBL	CSL BLUE Wide Range Prestained Protein Ladder, 10-245kDa, with 25 & 75kDa reference bands, 1x 500µL vial.

PAGE Buffers

Five buffers are available in powder sachets for a range of native and denaturing protein gel electrophoresis techniques. Each powder sachet, which is supplied as a 10-pack, may be reconstituted to make 1 litre of working solution. Running buffers are also available in 1 litre and 5 litre volumes as ready-made 10x Tris-Glycine and 10x Tris-Glycine-SDS solutions.

Technical Specification		
Powder Buffer	Composition	Applications
Tris-Glycine-SDS	Each litre of 1x working solution contains: Tris-base (25mM); glycine (192mM); SDS, 0.1% (w/v); followed by distilled water. Working solution pH = 8.3.	Denaturing SDS-PAGE for most cellular proteins, 10-200kDa in size
Tris-Glycine	Each litre of 1x working solution contains: Tris-base (25mM); glycine (192mM); followed by distilled water. Working solution pH = 8.3.	Native PAGE
Tris-Tricine-SDS	Each litre of 1x working solution contains: Tris-base (0.1M); tricine, (0.1M); SDS, 0.1% (w/v); followed by distilled water. Working solution pH = 8.25.	Denaturing SDS-PAGE, with greater resolving power for small proteins 2-20kDa in size
MOPS-SDS	Each litre of 1x working solution contains: MOPS (50mM); Tris Base (50mM); SDS, 0.1% (w/v); EDTA (1mM); followed by distilled water. Working solution pH = 7.7.	Denaturing SDS-PAGE for medium- to large-sized proteins
MES-SDS	Each litre of 1x working solution contains: MES (50mM final stock concentration); Tris Base (50mM); SDS, 0.1% (w/v); EDTA (1mM); followed by distilled water. Working solution pH = 7.3.	Denaturing SDS-PAGE for small- to medium-sized proteins; faster than MOPS

Ordering Information			
Code	Powder Buffers	Code	Liquid Buffers
CSL-TGSDSP	Powdered Tris-Glycine-SDS Running buffer - 10 Sachets (10 litres/pk)	TG10X1L	Cleaver Buffer Tris-Glycine 10 x 1litre
CSL-TGP	Powdered Tris-Glycine Running buffer - 10 Sachets (10 litres/pk)	TG10X5L	Cleaver Buffer Tris-Glycine 10 x 5litre
CSL-TTSDSP	Powdered Tris-Tricine-SDS Running buffer - 10 Sachets (10 litres/pk)	TG-SDS10X1L	Cleaver Buffer Tris-Glycine SDS 10 x 1litre
CSL-MSDSP	Powdered MOPS-SDS buffer Running buffer - 10 Sachets (10 litres/pk)	TG-SDS10X5L	Cleaver Buffer Tris-Glycine SDS 10 x 5litre
CSL-MESDSP	Powdered MES-SDS buffer Running buffer - 10 Sachets (10 litres/pk)		



Membranes, buffers, stains and filter pads

Cleaver Scientific offers a range of membranes, buffers and stains for protein and nucleic acid blotting applications. New products include blot-absorbent filter paper that maximises gel-membrane compression for efficient blotting, and 'fastPADS', which are ready-to-use western transfer pads that only require leftover PAGE buffer or distilled water to perform rapid high-intensity transfers in standard electroblotters and semi-dry systems.

Transfer buffers

Cleaver Scientific powder buffers and stock solutions are convenient to use and time-saving because they can be made up as and when required without any need to weigh out constituent compounds and make pH adjustments to the reconstituted buffer afterwards.

Electroblotting Transfer Buffers

Towbin Buffer Tris-Glycine base is available in powder sachets to make 1 litre of 1x working solution for wet and semi-dry transfer techniques. Simply mix 800ml of 1x working solution with 200ml of methanol for complete 1x Towbin buffer. Cleaver Scientific Western Transfer Buffer is available as a 10x concentrate and may be mixed with 900ml of distilled water to make a 1x working solution.

Ordering Information	
CSL-TTGP	Powdered Towbin Buffer Tris-Glycine Base – 10 sachets (10 litres/pack)
CSL-WTB	10x Western Transfer Buffer (100ml)



Semi-Dry Transfer Buffers

Available as 1 litre ready-to-use solutions, Cleaver Scientific semi-dry blotting solutions facilitate efficient transfer of proteins to nitrocellulose and PVDF membranes.

Ordering Information	
CSL-SDWB	Semi-dry Western Blot buffer for nitrocellulose (1L)
CSL-SDWBPVDF	Semi-dry Western Blot buffer for PVDF (1L)



- Manufactured from cotton, which, unlike standard cellulose-based paper, absorbs buffer instantly without air bubbles that inhibit transfer
- Available in 10x10cm & 20x20cm
- May also be used as electrode wicks in cellulose acetate membrane applications

Blot-Absorbent Filter Paper

Cleaver Scientific blot-absorbent filter paper is supplied in packs of 50 and in sizes of 10x10cm and 20x20cm. Its 1-mm-thick texture and high buffer retention properties, being able to absorb twice its own weight in buffer, allow it to exert the gel-membrane compression needed for efficient transfers.

Ordering Information	
CSL-BP1010	Blot-Absorbent Filter paper, 10x10cm, pack of 50
CSL-BP2020	Blot-Absorbent Filter paper, 20x20cm, pack of 50

- Two types offered: nitrocellulose for most blotting applications; positively charged nylon for Southern, northern & dot and slot blots with non-radiolabelled or radiolabelled probes
- 0.2µm pore size prevents sample transfer through the membrane

Blotting Membrane Rolls

Supplied in 0.24x3m and 0.3x3m (w x l) sizes, allowing them to be cut to match specific gel formats, these membrane rolls are suitable for transfer of proteins and nucleic acids from polyacrylamide and agarose gels. Offered in 0.2 and 0.45µm pore sizes.

Ordering Information & Technical Specification			
Code	Description	Pore Size	Recommended Applications
CSL-RNC45	Nitrocellulose roll, 0.3x3m (w x l)	0.45µm	For most analytical blotting procedures, including protein, single-stranded DNA & RNA; compatible with colorimetric, radiolabelled, chemiluminescent and fluorescent detection and staining methods
CSL-RNC2	Nitrocellulose roll, 0.3x3m (w x l)	0.2µm	For small proteins <15kDa
CSL-RNY45	Positively charged supported nylon, 0.24x3m (w x l)	0.45µm	For Southern blots and transfer of nucleic acids from agarose and acrylamide gels; rapid alkaline Southern transfer
CSL-RNY2	Positively charged supported nylon, 0.24x3m (w x l)	0.2µm	

Ponceau S

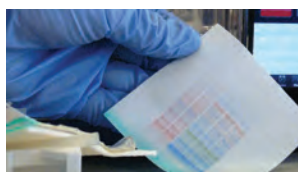
Ponceau S staining solution is reusable and available in a convenient 500ml volume for membrane staining and early protein detection following transfer before western blotting. Ponceau S may also be supplied a powder staining kit for long-term storage.

Ordering Information	
CSL-PSS	Ponceau S staining solution (500ml)
CSL-PSB	Ponceau S staining solution powder staining kit (makes 2000ml)





- Rapid assembly – gel/membrane sandwich set up within a couple of minutes, followed by 15' transfer
- Economical – reuses PAGE buffer regardless of type (Tris/Glycine, MOPS, MES, HEPES etc.)
- Environmentally friendly with little waste
- Optimised with 0.2µm PVDF which has very high protein binding capacity & is very robust
- 4x blotting-paper pads (9x7 cm; WxH), with or without 1x PVDF (8.8x6.6cm) membrane, supplied per pac



fastPADS

from assembly to transfer in as little as 19 minutes!

fastPADS are specially formulated western transfer pads which use leftover PAGE buffer or distilled water to perform rapid high-intensity transfers in standard electroblotters and semi-dry systems. fastPADS utilise a proprietary form of Towbin buffer that dramatically increases transfer speed, but without the excessive heat generation that may compromise transfers, particularly of native proteins.

fastPADS are economical to use, needing only the buffer left in the tank after PAGE, and they do not require any special equipment. They are also environmentally friendly as waste is limited to only a few pieces of blotting paper and the spent acrylamide gel.

fastPADS are supplied with or without PVDF membrane and their set up is simple. Firstly, soak the preferred membrane within the buffer in which the fastPADS are supplied, while the gel is immersed for 2 minutes in distilled water. Set up the gel-membrane sandwich as normal, and use the leftover PAGE buffer to perform a 15-minute transfer at 330mA. Remove the membrane from the sandwich and start blotting.

fastPADS are recommended for use with omniPAGE Mini Electroblotting (pg 50), Sub-Blot (pg 52), and Tank Electroblot Mini (pg 53) and Semi-Dry systems (pg 54).

Ordering Information

CSL-FPADS	FastPADS high-speed blotting pads, excludes PVDF, pack of 10
CSL-FPADSPVDF	FastPADS high-speed blotting pads, includes 0.2µm PVDF, pack of 10



Isoelectric Focusing

Cleaver Scientific IPG strips are available in 3 different strip lengths to fit all Cleaver Scientific vertical systems for second-dimension PAGE. Each strip length is offered in a wide selection of pH gradients, with 3, 4 and 7 pH units per strip, to maximise the resolving power of the CSL-IEF flat-bed isoelectric focusing system (pg 39). Shorter strips are normally used to develop and validate methods in the omniPAGE CVS10 mini-gel system (pages 25 & 37)*, whereas longer strips of 18cm lengths are best employed in the VS20 WAVE maxi system, with its IPG converter kit (pg 33-34), to optimise separation and resolution with higher protein loads. 24cm IPG strips are recommended for use in the VS30 second-dimension vertical system (pg 40). Cleaver Scientific IPG strips are cast using high quality ampholytes, and undergo stringent QC tests for quality and 2-D gel-to-gel reproducibility.

*May also be used with VS10WDSYS with its IPG converter kit (pg 29).

Design Benefits offered by Cleaver Scientific IPG strips include...

- A rigid plastic backing supports a covalently bound gel matrix to prevent breakage and make handling easier
- Each strip is supplied freeze-dried and with a detachable cover film to stop contamination
- Strips pre-printed with their own lot number for full traceability, documentation and GMP/GLP compliance
- The anodic end is labelled as '+', while the cathodic end is light blue in colour to ensure that the strips are positioned in the correct polar orientation before first-dimension focusing and second-dimension PAGE
- Light blue stain migrates from cathode to anode during focusing, serving as a marker for electrophoresis progression
- Sample-loading by overnight rehydration or 'cup-loading'

Gradient Selection criteria...

- Supplied in 7, 18 and 24cm strip lengths with 6 different gradients
- Standard broad-range pH gradients maximise resolution within a single second-dimension gel (e.g. pH 3-10)
- Narrow-range gradients (e.g. pH 3-6) optimise resolving power within a specific pH region – i.e. by offering more centimetres of gel per pH unit
- pH 3-10 Non Linear gradient strips have a 'flat zone' corresponding to pH 5-7 for increased protein resolving power within this region

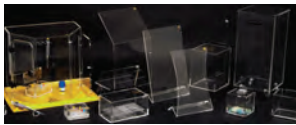
Quality assured...

- Consistency – all 12 strips supplied with each package come from the same production lot
- Reliability – accurate pH gradient casting procedures ensure lot-to-lot and 2-D gel-to-gel reproducibility
- May be used with all commercial IEF systems

Ampholytes are low molecular weight zwitterionic molecules, which are derived synthetically and comprise a multitude of pI-values. They are used to make capillary ampholyte gels and IPG strips, because of their capacity to carry both positive and negative charge. A linear pH-gradient is generated when an electric field is applied and they migrate to the position of their corresponding pI (isoelectric point) and have no resultant net charge. Cleaver Scientific recommends the application of ampholytes in IPG strip rehydration (please see Ordering Information below).

Technical Specification							
IPG Strip Length	Width/Gel Thickness	Pack Size	pH Gradients Broad Range	pH Gradients Narrow Range	Storage Temperature/ Stability	Recommended Protein Load	Recommended second - dimension vertical systems (strip capacity)
7cm	3mm/ 0.5mm	12 strips/ pack	3-10, 3-10 NL	3-6, 5-8, 10-11	-20°C / 18 months	5-100µg	CVS10DSYS (2), VS10WDSYS with IPG Converter kit (4)
18cm						50-300µg	VS20WAVE with IPG converter Kit (2)
24cm						80-700µg	VSD30DSYS (2)

Ordering Information						
IPG Strips						
Description	Code					
pH Range	3-10	3-10 NL	3-6	4-7	5-8	6-10
IPG Strip Length						
7cm	CSL-IPG3-10/7	CSL-IPG3-10/7NL	CSL-IPG3-6/7	CSL-IPG7-7/7	CSL-IPG5-8/7	CSL-IPG6-10/7
18cm	CSL-IPG3-10/18	CSL-IPG3-10/18NL	CSL-IPG3-6/18	CSL-IPG4-7/18	CSL-IPG5-8/18	CSL-IPG6-10/18
24cm	CSL-IPG3-10/24	CSL-IPG3-10/24NL	CSL-IPG3-6/24	CSL-IPG4-7/24	CSL-IPG5-8/24	CSL-IPG6-10/24
Ampholytes (2ml volume) recommended for strip rehydration						
pH Range	3-10	3-10 Iso-Dalt	3-6	4-7	5-8	6-9
Code	CSL-AMP3-10/2	CSL-AMP3-10/2ID	CSL-AMP3-6/2	CSL-AMP4-7/2	CSL-AMP5-8/2	CSL-AMP6-9/2

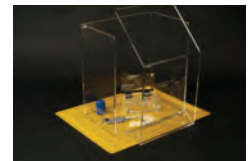
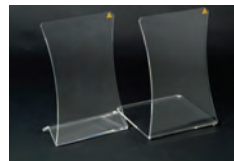


radiation safety

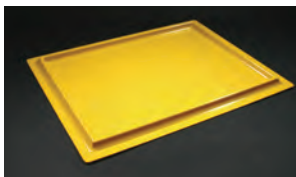
Available in standard 10mm beta-protecting acrylic, 12mm gamma-attenuating lead acrylic and also as duo shielding for protection against both types of emission, Cleaver Scientific's comprehensive range of Radiation Safety Products comprises a large selection of shields, boxes, waste bins, trays, plus assorted accessories and cabinets.

shields

Supplied in small, medium and large sizes and with curved base 15cm-deep for use with safety trays or flat 30x30cm base for under-the-bench protection. A range of angles offers increased manoeuvrability, while clear optical acrylic aids visualisation.



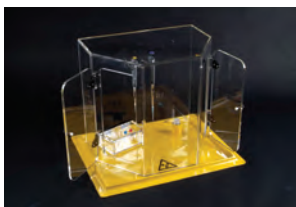
Ordering Information					
BETA	GAMMA		BETA	GAMMA	
CSR-S1	CSR-S1G	Small Fixed 15° Angle - Flat Base 30 x 45cm, Base 30 x 30cm	CSR-S3	CSR-S3G	3-Sided Front 46 x 50cm, Sides 30 x 50cm
CSR-S1T	CSR-S1TG	Small Fixed 15° Angle - Curved Base 30 x 45cm	CSR-S4	CSR-S4G	Hourglass Shield - Flat Base 30 x 45cm, Base 30 x 30cm
CSR-S2	CSR-S2G	Large Fixed 15° Angle - Flat Base 35 x 53cm, Base 35 x 30cm	CSR-S4T	CSR-S4TG	Hourglass Shield - Curved Base 30 x 45cm
CSR-S2T	CSR-S2TG	Large Fixed 15° Angle - Curved Base 35 x 53cm	CSR-SFLEXI	CSR-SFLEXIG	Shield - Adjustable 35 x 54 or 54 x 35cm
CSR-S10	CSR-S10G	Small Fixed 45° Angle - Flat Base 30 x 45cm, Base 30 x 30cm	CSR-SF	CSR-SFG	Base Plate 45 x 41cm
CSR-S10T	CSR-S10TG	Small Fixed 45° Angle - Curved Base 30 x 45cm	-	CSR-SDUO	DuoShield - Curved Base, Beta/Gamma 30 x 45cm
CSR-S20	CSR-S20G	Large Fixed 45° Angle - Flat Base 35 x 60cm, Base 30 x 30cm	-	CSR-SFLEXITG	Shield - Adjustable, 35 x 54 or 54 x 35cm, 35mm thick
CSR-S20T	CSR-S20TG	Large Fixed 45° Angle - Curved Base 35 x 60cm			



trays and liners

Available in general purpose, biohazard and radiation safety formats, spilltrays provide a re-usable work area with the added benefit of safe containment of spillages and lab bench protection. All trays supplied with one free liner when purchased. Additional environmentally friendly APET liners provided in packs of 25.

Ordering Information				
Tray Size	Radiation Hazard Tray, Yellow	BioHazard Tray, White	General Purpose Tray, White	APET liners, pk 25
46x26cm	CSR-TY1	CSR-T01	CSR-TW1	CSL-TL1
54x34cm	CSR-TY2	CSR-T02	CSR-TW2	CSL-TL2
57x54cm	CSR-TY3	CSR-T03	CSR-TW3	CSL-TL3
68x54cm	CSR-TY4	CSR-T04	CSR-TW4	CSL-TL4
70x46cm	CSR-TY5	CSR-T05	CSR-TW5	CSL-TL5
113x54cm	CSR-TY6	CSR-T06	CSR-TW6	CSL-TL6



cabinets

Cleaver Scientific cabinets provide a convenient area to carry out work with beta and gamma emitting isotopes with complete all round protection. Each cabinet's 49 x 55 x 37cm dimensions offer a large working area without impeding vision, either in a standing or seated position.

Ordering Information		
BETA	GAMMA	
CSR-CAB	CSR-CABG	Beta Work Cabinet, 49 x 55 x 37cm



radiation safety

storage boxes, waste bins and cabinet

Cleaver Scientific storage boxes are manufactured with hinged lids and accommodate interchangeable inserts that hold microtubes, centrifuge tubes, scintillation vials, universals, cryotubes and falcon tubes. Also supplied is our range of floor-standing and benchtop bins with anti-slip feet and hinged lids. These serve as an ideal solution for short-term storage of radioactive waste or radioisotopes. Both the Beta and Gamma storage bins are available in five sizes, while the two largest bin models have wheels for easy transportation. Optional heavy duty drawstring bags may also be purchased.

Ordering Information					
BETA	GAMMA	BOX SIZE	BETA	GAMMA	BOX SIZE
BOXES					
CSR-B0.4	CSR-B0.4G	Mini 5.5 x 8.5 x 8.5cm	CSR-BDUO	CSR-BDUOG	Duo Box 7 x 10 x 6cm
CSR-B0.8	CSR-B0.8G	Midi 6 x 16.5 x 8.5cm	CSR-BLOCK	CSR-BLOCKG	Block for 4 x 1.5ml Eppendorf tubes 5 x 3.5 x 14cm
CSR-B6.5	CSR-B6.5G	Maxi 14 x 28 x 16.5cm	CSR-BLOCKL	CSR-BLOCKLG	Cover for B4 1 x 3.5 x 14cm
CSR-B3.5	CSR-B3.5G	Box for four way racks 14 x 17.5 x 15cm	CSR-STORE	CSR-STOREG	Beta-Storage/Transport Block 7 x 15 x 12cm
CSR-B8	CSR-B8G	Transport Box 7.5 x 29.5 x 38cm	CSR-COV	CSR-COVG	Carboy Cover 59 x 38 x 38cm
INSERTS					
CSR-R1.5		Mini Box Insert - 16 x 1.5ml tubes	CSR-R20		Maxi Box Insert - 8 x 20ml Scintillation vials
CSR-R50		Maxi Box Insert - 8 x 50ml Centrifuge tubes	CSR-RDUO		Midi Box Insert - 16 x 1.5 and 16 x 0.5ml tubes
CSR-R0.5		Mini Box Insert - 20 x 0.5ml tubes	CSR-R5		Maxi Box Insert - 15 x 5ml Scintillation vials
CSR-R3F		Maxi Box Insert - 3 x Falcon tubes, 8 x 1.5ml tubes	CSR-R2		Midi Box Insert - 32 x 2ml Cryotubes
CSR-R1.5L		Midi Box Insert - 32 x 1.5ml Eppendorf tubes	CSR-RU		Maxi Box Insert - 8 x Universals
CSR-R2F		Maxi Box Insert - 2 x Falcon tubes, 8 x 1.5ml tubes	CSR-R15		Maxi Box Insert - 15 x 15ml Centrifuge tubes
CSR-R0.5L		Midi Box Insert - 40 x 0.5ml Eppendorf tubes			
BETA	GAMMA	BIN SIZE	BETA	GAMMA	BIN SIZE
BINS					
CSR-B1	CSR-B1G	1L, use with bag CSR-BAG1 13 x 10 x 8cm	CSR-B5TIP	-	Large 5L, use with bag CSR-BAG2 33 x 13 x 13cm
CSR-B2TIP	CSR-B2TIPG	2L, use with bag CSR-BAG1 13 x 13 x 13cm	CSR-B20	CSR-B20G	20L, use with bag CSR-BAG5 38 x 21.5 x 23.5cm
CSR-B2MCTIP	CSR-B2MCTIPG	2L, use with bag CSR-BAG1 13 x 13 x 13cm	CSR-B53	CSR-B53G	53L, use with bag CSR-BAG5 40 x 49 x 27cm
CSR-B3	CSR-B3G	3.3L, use with bag CSR-BAG1 15 x 15 x 15cm	CSR-B47	-	47L with Wheels, use with bag CSR-BAG6 58 x 28.5 x 27cm
CSR-B10	CSR-B10G	10L, use with bag CSR-BAG2 25 x 20 x 20cm	CSR-B122	-	122L with Wheels, use with bag CSR-BAG6 74 x 41 x 41cm
CSR-B15	CSR-B15G	15L, use with bag CSR-BAG2 29.5 x 21.5 x 23.5cm			
BAGS					
CSR-BAG1		Drawstring Radiation Bags, pk/25 15 x 15 x 15cm	CSR-BAG5		Drawstring Radiation Bags, pk/25 40 x 49 x 27cm
CSR-BAG2		Drawstring Radiation Bags, pk/25 25 x 20 x 20cm	CSR-BAG6		Drawstring Radiation Bags, pk/25 61 x 28 x 28cm



Accessories

Other accessories available include pipette guards, radiation tape and warning signs and labels.

Ordering Information				
BETA	GAMMA			
CSR-PB2	CSR-PB2G	Pipette Shield - Biohit PS1000 Beta	CSR-LABS	Radiation Labels, pk/25 25x25mm
CSR-PB1	CSR-PB1G	Pipette Shield - Biohit PS200 Beta	CSL-LABL	Radiation Labels, pk/25 50x50mm
CSR-PB3	CSR-PB3G	Pipette Shield - Biohit PS5000 Beta	CSR-RADTAPE	Radiation Tape, pk/25 25mm x 66m
CSR-PG3	CSR-PG3G	Pipette Shield - Gilson P1000 Beta		
CSR-PG1	CSR-PG1G	Pipette Shield - Gilson P20/100 Beta		
CSR-PG2	CSR-PG2G	Pipette Shield - Gilson P200 Beta		